

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Previously Presented) A heat exchanger for cooling three cooling bodies, the heat exchanger comprising:

a first heat exchanger comprising a first heat radiating area arranged to receive a flow of a first cooling body and to radiate heat therefrom; and

a second heat exchanger comprising a second heat radiating area arranged to receive a flow of a second cooling body and to radiate heat therefrom and a third heat radiating area arranged to receive a flow of a third cooling body and to radiate heat therefrom;

the second and third cooling bodies being disposed parallel to the respective second and third heat radiating areas, and the second and third heat radiating areas being disposed rearward of the first heat radiating area, and

when in use, the difference in temperature between the first cooling body entering the first heat radiating area and exiting the first heat radiating area is greater than the difference in temperature between the second cooling body entering the second heat radiating area and exiting the second heat radiating area and greater than the difference in temperature between the third cooling body entering the third heat radiating area and exiting the third heat radiating area, and the temperature of the second cooling body flowing through the second heat radiating area is higher than the temperature of the third cooling body flowing through the third heat radiating area,

the second heat radiating area being disposed on the upstream side of the flow direction of the first cooling body in the first heat radiating area, and the third heat radiating

area being located on the downstream side of the flow direction of the first cooling body in the first heat radiating area.

2. (Previously Presented) The heat exchanger for cooling three cooling bodies, the heat exchanger comprising:

a first heat exchanger comprising a first heat radiating area arranged to receive a flow of a first cooling body and to radiate heat therefrom; and

a second heat exchanger comprising a second heat radiating area arranged to receive a flow of a second cooling body and to radiate heat therefrom and a third heat radiating area arranged to receive a flow of a third cooling body and to radiate heat therefrom;

the second and third cooling bodies being disposed parallel to the respective second and third heat radiating areas, and the second and third heat radiating areas being disposed rearward of the first heat radiating area, and wherein, in use,

the temperature of the first cooling body flowing through the first heat radiating area being higher than the temperature of the second cooling body flowing through the second heat radiating area, and the temperature of the second cooling body flowing through the second heat radiating area being higher than the temperature of the third cooling body flowing through the third heat radiating area, and

the second heat radiating area being disposed on the upstream side of the flow direction of the first cooling body in the first heat radiating area, and the third heat radiating area being located on the downstream side of the flow direction of the first cooling body in the first heat radiating area.

3. (Previously Presented) The heat exchanger according to claim 1, wherein

the area of the first heat radiating area disposed on a first face of the first heat exchanger is substantially the same as the combined areas of the second and third heat radiating areas disposed on a first face of the second heat exchanger, the first faces being arranged to receive an airflow, in use.

4. (Previously Presented) The heat exchanger according to claim 1, wherein the first heat exchanger is disposed substantially parallel to the second heat exchanger.

5. (Previously Presented) The heat exchanger according to claim 1, wherein the second and third heat radiating areas are disposed adjacent one another.

6. (Withdrawn) The heat exchanger according to claim 1, wherein the second heat radiating area is disposed between a first third heat radiating area portion and a second third heat radiating area portion.

7. (Previously Presented) The heat exchanger according to claim 1, wherein the first cooling body is arranged to transfer heat from a vehicle air conditioning unit to the first heat radiating area, the second cooling means is arranged to transfer heat from a vehicle fuel cell to the second heat radiating area, and the third cooling means is arranged to transfer heat from a vehicle drive motor to the third heat radiating area.

8. (Previously Presented) The heat exchanger according to claim 7, wherein

when in use, the first cooling body flows from the air conditioning unit to the first heat radiating area via a first cooling body inlet passageway, and from the first heat radiating area to the air conditioning unit via a first cooling body outlet passageway, and

the first heat exchanger further comprises a first cooling body inlet for receiving the first cooling body from the first cooling body inlet passageway, and a first cooling body outlet for permitting the flow of the first cooling body out of the first heat exchanger and into the first outlet passageway.

9. (Previously Presented) The heat exchanger according to claim 8, wherein when in use, the second cooling body flows from the fuel cell to the second heat radiating area via a second cooling body inlet passageway, and from the second heat radiating area to the fuel cell via a second cooling body outlet passageway, and

the second heat exchanger further comprises a second cooling body inlet for receiving the second cooling body from the second cooling body inlet passageway, and a second cooling body outlet for permitting the flow of the second cooling body out of the second heat exchanger and into the second cooling body outlet passageway.

10. (Previously Presented) The heat exchanger according to claim 9, wherein the third cooling body is transferred from the drive motor to the third heat radiating area via a third cooling body inlet passageway, and from the third heat radiating area to the drive motor via a third cooling body outlet passageway, and

the second heat exchanger further comprises a third cooling body inlet for receiving the third cooling body from the third cooling body inlet passageway, and a third cooling body outlet for permitting the flow of the third cooling body out of the second heat exchanger and into the third cooling body outlet passageway.

11. (Previously Presented) The heat exchanger according to claim 10, wherein when in use, the relative temperatures of the cooling bodies at the first, second and third cooling body inlets are given by the relationship: $\text{Temperature}_{\text{first cooling body inlet}} > \text{Temperature}_{\text{second cooling body inlet}} > \text{Temperature}_{\text{third cooling body inlet}}$, and the relative temperatures of the cooling bodies at the first, second and third cooling body outlets are given by the relationship: $\text{Temperature}_{\text{second cooling body outlet}} > \text{Temperature}_{\text{third cooling body outlet}} > \text{Temperature}_{\text{first cooling body outlet}}$.

12. (Previously Presented) The heat exchanger according to claim 7, wherein the second cooling body in the second heat radiating area flows in a straight line from an upper area of the vehicle to a lower area of the vehicle.

13. (Previously Presented) The heat exchanger according to claim 7, wherein the third cooling body in the third heat radiating area flows in a straight line from an upper area of the vehicle to a lower area of the vehicle.

14. (Previously Presented) The heat exchanger according to claim 2, wherein the area of the first heat radiating area disposed on a first face of the first heat exchanger is substantially the same as the combined areas of the second and third heat radiating areas disposed on a first face of the second heat exchanger, the first faces being arranged to receive an airflow, in use.

15. (Previously Presented) The heat exchanger according to claim 2,
wherein

the first heat exchanger is disposed substantially parallel to the second heat
exchanger.

16. (Previously Presented) The heat exchanger according to claim 2,
wherein

the second and third heat radiating areas are disposed adjacent one another.

17. (Withdrawn) The heat exchanger according to claim 2, wherein
the second heat radiating area is disposed between a first third heat radiating area
portion and a second third heat radiating area portion.

18. (Previously Presented) The heat exchanger according to claim 2,
wherein
the first cooling body is arranged to transfer heat from a vehicle air conditioning unit
to the first heat radiating area, the second cooling means is arranged to transfer heat from a
vehicle fuel cell to the second heat radiating area, and the third cooling means is arranged to
transfer heat from a vehicle drive motor to the third heat radiating area.

19. (Previously Presented) The heat exchanger according to claim 18,
wherein
when in use, the first cooling body flows from the air conditioning unit to the first
heat radiating area via a first cooling body inlet passageway, and from the first heat radiating
area to the air conditioning unit via a first cooling body outlet passageway, and

the first heat exchanger further comprises a first cooling body inlet for receiving the first cooling body from the first cooling body inlet passageway, and a first cooling body outlet for permitting the flow of the first cooling body out of the first heat exchanger and into the first outlet passageway.

20. (Previously Presented) The heat exchanger according to claim 19, wherein

when in use, the second cooling body flows from the fuel cell to the second heat radiating area via a second cooling body inlet passageway, and from the second heat radiating area to the fuel cell via a second cooling body outlet passageway, and

the second heat exchanger further comprises a second cooling body inlet for receiving the second cooling body from the second cooling body inlet passageway, and a second cooling body outlet for permitting the flow of the second cooling body out of the second heat exchanger and into the second cooling body outlet passageway.

21. (Previously Presented) The heat exchanger according to claim 20, wherein

the third cooling body is transferred from the drive motor to the third heat radiating area via a third cooling body inlet passageway, and from the third heat radiating area to the drive motor via a third cooling body outlet passageway, and

the second heat exchanger further comprises a third cooling body inlet for receiving the third cooling body from the third cooling body inlet passageway, and a third cooling body outlet for permitting the flow of the third cooling body out of the second heat exchanger and into the third cooling body outlet passageway.

22. (Previously Presented) The heat exchanger according to claim 21,
wherein

when in use, the relative temperatures of the cooling bodies at the first, second and third cooling body inlets are given by the relationship: $\text{Temperature}_{\text{first cooling body inlet}} > \text{Temperature}_{\text{second cooling body inlet}} > \text{Temperature}_{\text{third cooling body inlet}}$, and

the relative temperatures of the cooling bodies at the first, second and third cooling body outlets are given by the relationship: $\text{Temperature}_{\text{second cooling body outlet}} > \text{Temperature}_{\text{third cooling body outlet}} > \text{Temperature}_{\text{first cooling body outlet}}$.

23. (Previously Presented) The heat exchanger according to claim 18,
wherein

the second cooling body in the second heat radiating area flows in a straight line from an upper area of the vehicle to a lower area of the vehicle.

24. (Previously Presented) The heat exchanger according to claim 18,
wherein

the third cooling body in the third heat radiating area flows in a straight line from an upper area of the vehicle to a lower area of the vehicle.